

1 **Measuring managerial efficiency of table egg producers in** 2 **Akwa Ibom State, Nigeria.**

3 **Abstract**

4 This study measured the managerial efficiency of table egg producers in Akwa Ibom
5 State. The specific objectives were to ; determine the levels of managerial efficiency of table-
6 egg producers in the study area; analyse the factors that affect managerial efficiency of table
7 egg producers in the study area and examine table egg producers' perceptions on the severity
8 of challenges of business environment in table egg production in the State. Structured
9 questionnaires were used to gather information from 180 table egg producers selected
10 through simple random sampling technique. Data Envelopment Analysis (DEA) was used to
11 analyse table egg producers' managerial efficiency while the factors affecting managerial
12 efficiency were examined using Tobit regression model. Findings from the study showed
13 that table egg producers were managerially inefficient with mean managerial efficiency level
14 of 12.6 % and standard deviation 16.1. Years of experience, marital status, sex and income
15 were significant factors that affected the managerial efficiency of table egg producers in the
16 study area. non- availability of credit facilities, irregular extension contacts, epileptic public
17 power supply high cost of feeds and high cost of labour were ranked as very severe
18 challenges of the business environment in table egg production. The study emphasizes the
19 need for government to collaborate with relevant stakeholders in the private sector to fund
20 and organize capacity building programmes for table egg producers. Also, Table egg
21 producers in the State should be encouraged to collaborate with their counterparts to form
22 partnerships. This would definitely improve their decision making process or managerial
23 capacities and consequently their managerial efficiency levels.

24
25 **Key words: managerial efficiency, table egg, business environment**

26 **1.0 Introduction**

27 Nigeria has the highest number of poultry farms as well as highest participation of people in
28 poultry industry in Africa, but in spite of this, various research outcomes have shown that
29 most of these farmers run their farms at very unsustainable profit margins due to lack of
30 technical experience, poor production methods as well as poor management which have
31 caused most farmers to quit the industry (FAO, 2010). Consequently, Nigerian agriculture
32 has not been able to feed the ever-increasing population with adequate calorie and protein
33 (Afolabi, 2012) and (Afolami, Adebayo, Afolabi and Odutola, 2011).

34 To augment the shortfall in local supply, the Federal Government of Nigeria (FGN)
35 tried to offset the huge deficit in animal protein consumption by embarking on massive
36 importation of chilled beef and chickens which caused an increase in import bills for food
37 and live animals from N178.745.4b in 2004 to N351.507.68b in 2009 (Central Bank of
38 Nigeria, 2009). For many reasons, this policy was counter-productive; hence, the ban on
39 importation of frozen poultry products in 2003. The ban of poultry products by the Federal
40 Government of Nigeria (FGN) caused a turn-around in poultry farming which grew by 10.3
41 percent in 2011 as compared with 0.3 percent in 2003. Apart from the ban, this growth was
42 also due to improvement in the provision of veterinary and extension services to poultry

43 farmers (Ibrahim, Shettima, Sulumbe and Abdullahi, 2009). Consequently, Nigerian hen-egg
44 production expanded rapidly from 185,300 metric tons in 2001 to 268,000 metric tons in
45 2011 representing 30.9 percent and was valued at \$527.49 million, ranking 19th in world
46 hen-egg production and the top producer in Africa.

47 However, this still falls short of the country's aim of self-sufficiency in animal protein
48 consumption which is put at 5gm/caput per day, a far cry from the Food and Agriculture
49 Organization's recommended level of 35gm/caput per day (Ojo, 2005). This has been
50 attributed largely to high cost of feeds which constitutes about 50 per cent of total production
51 cost (Ojo and Ajibefun, 2000; Udom, 2003). Okike (2009) observed that the potential for egg
52 consumption was enormous in the country but most people eat less than 40 eggs in a year. He
53 argued that if the farmers can produce at affordable prices, the consumption rate will rise and
54 emphasizes the need for government to create an enabling environment that would help the
55 farmers reduce their production cost.

56 On the other side, Ebong (2007) and Uchendu (2008) identified the problem of low or
57 inadequate skills, knowledge, and non-scientific approaches to agricultural production as
58 major impediments to agricultural productivity in Nigeria. They attributed the persistent low
59 productivity to inefficient use of resources and poor managerial skills. It is reported that
60 farmers in developing countries fail to explore the full potential of technology and make
61 allocative errors (Taylor and Shonkwiler, 1986; Ali and Flinn, 1989, Kalirajan and Shand,
62 1989; Bravo-Ureta and Evenson, 2007; Shanmugan and Palanisami, 1994; Sharma and Datta,
63 1997; Thomas and Sudaresan, 2000)

64 According to the Resources Inventory and Management Limited (RIM, 1992), the
65 livestock industry is dominated by poor-resource farmers who have very low level of
66 education, poor capital base and inability to manage resources efficiently. He further stated
67 that production targets can only be achieved if farmers are properly educated to enable them
68 manage farm inputs, adopt and properly apply innovations from research institutes. Afolabi,
69 (2012), Iyangbe & Orewa, (2009) and Adepoju (2008) also, attributed the problem of
70 underperformance in the livestock sector and particularly in poultry to inefficiency in
71 resource use. They also described the business environment of egg producing enterprises as
72 hostile due to: high cost of feed, poor management, diseases and pests, poor extension and
73 training facilities, marketing problems, lack of credit facilities, poor logistics, lack of
74 regulatory institutions to ensure that farmers comply with established rules for quality,
75 products safety and standard.

76 Several studies have been conducted on efficiency in the poultry industry. Most of
77 these studies which include; Ashagidigbi *et al.* (2011), Binuomote *et al.* (2008), Adepoju
78 (2008), Yusuf and Malomo (2007), Ojo *et al.* (2012), (Etim, Udoh and Awoyemi, 2005);
79 (Ohajianya, Onu, Ugwu, Osuji, Nwaiwu, Orebiyi, Godson-Ibeji and Enyia 2013a);
80 Ohajianya, Mgbada, Onu, Enyia, Henri-Ukoha, Ben-chendo and Godson-Ibeji, 2013b) and
81 Udo *et al.* (2010) are on efficiency in resource use and focus only on the technical or
82 allocative or economic efficiencies. However, researchers and scholars in the field of farm
83 management agree that the farmer is one of the most important elements affecting farm
84 performance (Baksh & Hassan, 2007), (Nuthall, 2006) and (Paria, Shahin, and Asadollah,
85 2013). The importance of competent management is emphasized also when the farmer's
86 managerial capacity is seen as the fourth production factor or when the managerial input is
87 seen as a major resource with nature, labour and capital (Rougoor, Trip, Huirne and
88 Renkema, 1998; Nuthall, 2006). Managerial skills are believed to determine the important
89 portion of a farm's economic returns because of its overall influence in the planning,
90 organizing, directing, coordinating and controlling of all activities relating to table egg
91 production namely: input supplies, production, processing/storage and marketing or
92 distribution (Byers and Rampa, 2013). Also, Punjabi, (2007) asserts business environment is

93 a major factor in determining the performance of the business. There are no known studies
 94 on managerial efficiency of table egg producers and the perception of producers of the
 95 severity of challenges in their business environment. This study is therefore conceptualized to
 96 fill this research gap. The broad objective of this study was to measure the managerial
 97 efficiency of table-egg producers in Akwa Ibom State.

98 The specific objectives of the study were to:

- 99 (i) determine the levels of managerial efficiency of table-egg producers in the study area
- 100 (ii) analyse the factors that affect managerial efficiency of table egg entrepreneurs in the
 101 study area.
- 102 (iii) examine Table egg producers' perceptions on the severity of challenges of business
 103 environment in table egg production in the state.

104 **Research of Hypotheses**

105 The hypotheses stated below in its null form were tested in this study:

106 Ho₁ Table egg producers in Akwa Ibom State are not managerially efficient

107 Ho₂: Some socioeconomic variables have no significant effect on managerial efficiency of
 108 table egg producers in the State.
 109

110 **2.0 Literature review**

111 **2.1 Managerial efficiency**

112
 113 Managerial efficiency within the context of this study is defined as the capacity of
 114 table egg entrepreneurs to harness and efficiently utilize scarce resources in the production of
 115 table egg (Baksh and Hassan, 2007). Farmers play managerial functions in organizing
 116 efficiently the transformation of inputs into productive outputs. The difference between the
 117 productivity of two managers in the same place and facing similar environmental condition
 118 lies in their managerial efficiencies. Managerial efficiency of an entrepreneur can be
 119 influenced by socioeconomic factors such as level of education (formal and informal),
 120 experience, access to extension services and personal ability and traits (Kalaitzandonakes and
 121 Dunn, 1995).

122 Historically, commentators argued that managerial skill is determined by genetic traits
 123 of a manager's personality, a predominantly intrinsic orientation too difficult to alter
 124 (Johnson, Halter, Jensen, Thomas 1961). Psychologists later detected that gene determines
 125 only a little of (33 to 34%) personality traits. Rather, social settings and trainings reshape
 126 personality (Borkenau, Riemann, Angleitner and Spinath 2001, Matthews, Deary and
 127 Whiteman, 2003). Being aware of this, agricultural economists have argued that necessary
 128 trainings should be provided to less-skilled farm managers to help enhance managerial skills
 129 (Nuthall, 2001). For example, he stated that "individual (social) behavior and learning are
 130 clearly related to managerial ability". Thus, it is critical to appreciate farm managers'
 131 psychological aspects and develop necessary programs to aid learning. Behavior reflects
 132 attitudes and objectives. And on the farm, managerial behavior can be assumed to reflect
 133 entrepreneurial goals (Bergevoet, Ondersteijn, Saatkamp, Woerkum and Huirne, 2004).

134 Resources involved in the production process are limited in supply and therefore
 135 demands that these scarce resources should be efficiently utilized. Efficient utilization of
 136 resources depends basically on the managerial ability of farm managers (Baksh and Hassan,
 137 2007). The difference between the productivity of two managers in the same place and facing
 138 similar environmental condition lies in their managerial abilities.

139 Managerial ability of an entrepreneur can be influenced by level of education (formal
 140 and informal), experience, access to extension services and personal ability and traits

141 (Kabitzandonakes and Dunn, 1995). Ford and Shonkwiler (1994) stated that managerial
 142 ability is defined through a set of demographic variables or proxies of production methods.
 143 Since management is difficult to measure, it has often been handled as a black box
 144 represented by limited factors such as age, education, and drivers or motivations of the
 145 farmers (Hanson 2008).

146 Typically, managers are responsible for organizing efficiently the transformation of
 147 inputs into productive outputs. Part of this process requires the manager to monitor and
 148 evaluate the inputs as well as motivate (in the case of labour). The manager's performance
 149 may be crucial for the success of the business if the manager performs well (and output is
 150 maximized for a given set of inputs), profit maximization will result (Dawson and Dobson,
 151 2002).

152

153 **2.2 Empirical studies on managerial efficiency**

154 Nwachukwu *et al* (2011) assessed the managerial efficiency among agribusiness firms
 155 in Abia state, Nigeria with specific interest in analyzing their socioeconomic characteristics,
 156 managerial efficiency levels and its determinants. Purposive sampling technique was used in
 157 the selection of locations and firms. Aba and Umuahia were selected where most of the
 158 commercial firms are located. The study employed 50 firms on the basis of their investment
 159 value (less than ₦5m). Descriptive statistics and stochastic frontier model were the analytical
 160 tools for the study. The result showed that majority of the firms were well established and
 161 managed by middle aged, sparingly literate and experienced managers with an appreciable
 162 income level and sizable household. The efficiency level of the managers was 0.62 on the
 163 average and managerial efficiency was found to be influenced positively by age of the firm,
 164 age of managers, income, and education of the managers. Efficiency was negatively affected
 165 by the household size of the managers. On the basis of the findings, the study suggested that
 166 periodic trainings and capacity building programs be organized for the managers to enhance
 167 their expertise and managerial competence.

168 Makinen (2013) studied how farmers' managerial thinking and management process
 169 effectiveness contribute to profitability of farming. A structured equation model of these two
 170 elements of management capacity and financial performance was applied on survey data and
 171 book-keeping results from 117 dairy farms. The model explained one-fourth of the varying
 172 profitability of sample farms. The result showed that farmers' managerial thinking is
 173 connected to farm profitability, but management process effectiveness is not. It was
 174 concluded that it is essential for good performance that the farmer should have a clear vision
 175 of developing farming with business and investment plans. Successful farmers also have a
 176 firm confidence on their managerial skills, a strong emphasis on instrumental and intrinsic
 177 values, and a high appreciation of farming as occupation. They also see the farm as an
 178 entrepreneurial business unit and intend to follow the corresponding principles of
 179 management.

180

181

3.0 RESEARCH METHODOLOGY

182 **3.1 Study area**

183 The study area for this research is Akwa Ibom State. The State was created as a
 184 geographical entity among the 36 states of the Federal Republic of Nigeria on September 23,
 185 1987 under Decree No. 24 of the Federal Republic of Nigeria. It was carved out of the
 186 former Cross River State and lies between Latitude 4° 32' and 5° 32' North and Longitude 7°
 187 25' and 8° 25' east of the equator. The state shares borders with River State in the West, Abia
 188 and Imo State in the North, Cross River State in the East and Atlantic Ocean forming its

189 southern boundary. The State occupies an area of 8,412 square kilometers with a population
 190 of 3.9million based on the national census figure of year 2006 and an average population
 191 density of 350 inhabitants per square kilometer with 85 percent of the population living in
 192 rural areas.(NBS, 2008). The State has thirty-one Local Government areas with Uyo as the
 193 capital. Akwa Ibom State has three distinguishable vegetation; the saline water swamp forest,
 194 the fresh water swamp forest and the rainforest. It has a mean annual rainfall of 2,200mm in
 195 the north of the state and 3,500mm in the southern part with sunshine of between 1,400 to
 196 1,500 hours per year. The rich land mass and all year-round clement weather offer a
 197 favourable environment for wildlife conservation, the production of food and tree crops, fish
 198 and livestock farming. The State is known for the cultivation of cassava, yam, cocoyam,
 199 maize, rice, cowpea, oil palm, coconut, raffia palm, kola and vegetable like okro, pepper and
 200 tomatoes. It also produces livestock such as sheep, goats, rabbits, snails and has a
 201 comparative advantage in poultry production.
 202

203 3.2 Sampling procedure and data collection

204 There are six agricultural zones in Akwa Ibom State Oron, Abak, Ikot Ekpene, Etinan,
 205 Eket and Uyo. For the purpose of this research, a sampling frame showing total population of
 206 1,051 table egg firms in the 6 agricultural zones in Akwa Ibom State was obtained from the
 207 Livestock Department of Ministry of Agriculture, & Natural resources, Akwa Ibom State
 208 (Table 1). Simple random sampling technique was adopted in the selection of 20% table egg
 209 firms from each agricultural zone to constitute a sample of 210 table egg firms. Structured
 210 questionnaire were used to obtain information from the selected firm
 211 owners/managers/producers. Information collected were on the socio-economic
 212 characteristics, access to credit, access to extension services by table egg producers,
 213 membership in cooperatives, factors that affect managerial efficiency of table egg producers,
 214 costs of table egg production and revenue from production. Out of the 210 questionnaires
 215 distributed, 180 were retrieved and used for analysis.

216 TABLE 1.

217 Sampling frame and sample size of Table egg producers in Akwa Ibom State by Agricultural
 218 Zones

S/N	Agricultural Zones/LGAs	Population of Egg Firms (Sampling Frame)*	Number of Egg firms selected for the study (20%)	No of Questionnaires Retrieved	Retrieval Rate (%)
1	Eket	150	30	30	100.0
2	Uyo	301	60	48	80.0
3	Ikot Ekpene	288	58	44	75.9
4	Abak	102	20	20	100.0
5	Etinan	130	26	26	100.0
6	Oron	80	16	12	75.0
	Total	1051	210	180	85.7

219 * Livestock Department, Ministry of Agriculture & Natural Resources, Akwa Ibom State

220

221 **3.3 Data analysis**

222 Two Data Envelopment Analysis (DEA) models developed by Charnes *et al.* (1978)
 223 namely: the Charnes, Cooper and Rhodes (CCR) model which consider constant returns to
 224 scale (CRS) and the Banker, Charnes and Cooper (BCC) model which considers variable
 225 return to scale (VRS) were used to calculate the managerial efficiency of table-egg producers
 226 in the area of study. Tobit regression model was used to analyse the factors that affect
 227 managerial efficiency of table egg producers. The perception of table egg producers on the
 228 severity of challenges facing the business environment were captured using a four point likert
 229 scale (Very severe, moderately severe, severe and not severe) and analysed using descriptive
 230 statistics.

231

232 **3.3.1 Determination of managerial efficiency**

233 The CCR model is given as;

$$\begin{aligned}
 \max W_p &= \sum_{r=1}^s u_r y_{rp} \\
 \text{s. t: } &\sum_{i=1}^m v_i x_{ip} = 1 \\
 &\sum_{r=1}^s u_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0 \quad \forall j, \\
 &u_r, v_i \geq 0 \quad \forall i, r.
 \end{aligned}$$

Model 1

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240 Likewise, the BCC model is formulated as follows (Model 2):

241

$$\begin{aligned}
 \max W_p &= \sum_{r=1}^s u_r y_{rp} \\
 \text{s. t: } &\sum_{r=1}^s u_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0 \quad \forall j, \\
 &u_r, v_i \geq 0 \quad \forall i, r.
 \end{aligned}$$

Model 2

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Model 1 (input oriented CCR model) allowed table-egg farms [otherwise referred to as Decision Making Units (DMUs) in DEA terminology] that had low inputs to come up with increasing returns to scale whereas model 2 (BCC model- output oriented model) allowed DMUs that had high inputs would come up with decreasing returns to scale.

Input-oriented model focuses on reducing inputs in order to have a 100% efficient DMU while the output-oriented model focuses on increasing outputs to have an efficient DMU.

n= Number of table egg farms otherwise called decision-making units (DMUs)

m= Socioeconomic factors that can influence managerial efficiency of table egg producers namely: age of the manager (yrs), access to extension services, (dummy, yes =1; No = 0); years of experience (yrs); access to credit (dummy, yes =1; No = 0);

257 household size (No); educational qualification of table egg producers (years of
 258 schooling), estimated per production cycle (N), etc to produce table egg

259 s = Quantity of outputs (table-egg) produced by each DMU

260 Specifically, DMU_j consumes amounts x_{ij} ($i = 1, \dots, m$) from inputs to produce
 261 amounts y_{rj} ($r = 1, \dots, s$) of outputs (table-eggs).

262 In the model formulation, x_{ip} ($i = 1, \dots, m$) and y_{rp} ($r=1, \dots, s$) denote the nonnegative
 263 crisp vectors of input and output values for DMU p and v and u symbolize input and output
 264 weights, respectively. In solving an optimization problem, each DMU_j sets its own weights to
 265 maximize its efficiency subject to the condition that all efficiencies of other DMUs remain
 266 less than or equal to (1) and the values of the weights are greater than or equal to (0) (Komleh
 267 *et al.*, 2011) The above mentioned linear programming (LP) problem would result in the managerial
 268 efficiency score of DMUs (table-egg producers). For the best situations, an efficiency value of (1)
 269 indicates an efficient unit (Dagistan *et al.*, 2009).

270

271 **3.3.2 Factors affecting managerial efficiency of table egg entrepreneurs**

272 Managerial efficiency of table egg producers depends on both social and economic
 273 factors. Tobit regression model was used to investigate the effect of these factors. The
 274 efficiency or inefficiency scores were regressed against farm specific variables. Managerial
 275 efficiency scores that were below 0.5 were adjudged inefficient and thus given the value zero.
 276 The socio-economic characteristic of the respondents that could affect managerial efficiency
 277 levels were considered as stated in the model below:

278

279 $MEff = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} + \beta_9 X_{9i} + \mu_i$

280 Where,

281 MEff = managerial efficiency score for each production unit or respondent

282 Where:

283 X_{1i} = Age of the farm manager (years)

284 X_{2i} = Sex of the manager (Dummy: Male =1; Female 2)

285 X_{3i} = Marital Status of the ith farm manager/producer

286 X_{4i} = the education level of the ith farm manager/producer (years of schooling)

287 X_{5i} = Years of Experience (years)

288 X_{6i} = Membership of a Cooperative Society (No=0, Yes=1)

289 X_{7i} = Number of Extension contacts

290 X_{8i} = Credit use by the ith farm unit (No=0, Yes=1)

291 X_{9i} = Income of the ith farm in number.

292 μ_i = the error term.

293

294

295 **4.0 RESULTS AND DISCUSSION**

296 **4.1 Managerial efficiency of table egg producers**

297 Findings of the study show that 89.4% of the respondents had managerial efficiency
 298 score of less than 26% while 2.2% of respondents accounted for managerial efficiency score
 299 of 76 – 100. The minimum managerial efficiency of table egg firms was 2% while the
 300 maximum was 100%. The average managerial efficiency score was 12.6%, with standard
 301 deviation of 16.1%. This result validates the null hypothesis (H_{01}) that table egg producers in
 302 the study area were not managerially efficient (Table 2).

303

304 TABLE 2
 Managerial Efficiency levels of table egg producers

Managerial efficiency scores	Frequency	Percentage
0 - 0.25	161	89.4
0.26 - 0.5	12	6.7
0.51 - 0.75	3	1.7
0.76 - 1.0	4	2.2
Total	180	100
Mean	12.6 (16.1)	

305 Source: Field Survey (2016) Note: Figures in parentheses are std. deviations
306

307 **4.2 Factors affecting managerial efficiency of table egg producers**

308 The results of the factors affecting the managerial efficiency of entrepreneurs in the
309 study area show that managerial efficiency of table egg producers depended on
310 socioeconomic factors such as marital status, sex of the farmer, years of experience and
311 income. The coefficient of years of experience was positive and significant at the 5 percent
312 level. It implies that years of experience of a table egg farmer, significantly explained
313 variations in managerial efficiency. From the results, farmers with less than 11 years of
314 experience are less efficient compared to managers with more than 30 years of experience.
315 More so, farmers with less than 10 years of experience were 0.147 times less efficient
316 compared to managers with more than 30 years of experiences. For managers with (11- 20)
317 years of experience and (21- 30) years of experience, managerial efficiency was lower by
318 0.128 and 0.396 compared to managers who had years of experience above 30 years Table 3).
319 This result is consistent with our apriori expectation and agrees with the findings of previous
320 studies by Ojo and Ajibefun (2000).

321 Considering the marital status of respondents, the result showed that table egg
322 producers who were married as well as the singles were more efficient than the widowed.
323 The positive relationship between marital status and managerial efficiency is in line with the
324 work of Ashagidigbi *et al.* (2011). Managerial efficiency increases by 0.387 when a farm
325 manager is married compared to when he/she was widowed, while, managerial efficiency
326 increases by 0.592 if a manager is single compared to when he/she is married.

327 The result further shows that sex is a significant factor that affects managerial
328 efficiency. As shown in the table 2, female managers were less productive compare to their
329 male counterparts. This is plausible given their level of commitment in the business.
330 Managerial efficiency fell by 0.118 if the manager is a female compared with farms managed
331 by males (Table 3). This is in line with the findings of Ashagidigbi *et al.* (2011).

332 Also, the result shows that income was positively related to managerial efficiency.
333 This implies that income was a significant determinant of managerial efficiency as reported
334 by Amaza, (2000) and Ashagidigbi *et al.* (2011). The result shows that Managers with high
335 income will be 0.09 times more efficient compared with managers with average income.
336 More so, managers with high income will be 0.058 times more efficient than managers with
337 low income (Table 3). This is convincing as income will serve as a motivation to achieve
338 higher performance and efficiency.

339

340

TABLE 3

341 Tobit regression showing the determinants of managerial efficiency of table-egg producers in

342 Akwa Ibom State

Variable	Coefficient	Std. Err.	T	P> t
Years of experience: below 10	-0.147*	0.08	-1.84	0.067
Years of experience: 11 to 20	-0.128*	0.066	-1.94	0.054
Years of experience: 21 to 30	-0.396***	0.113	-3.49	0.001
Marital status: Married	0.387***	0.065	5.96	0.000
Marital status: single	0.592***	0.145	4.07	0.000
Sex: Female	-0.118**	0.056	-2.09	0.038
Income: High	-0.582	0.327	-1.78	0.076
Income: Average	-0.09**	0.039	-2.3	0.022
Income: Low	-0.058*	0.033	-1.78	0.076
Access to credit	-0.029	0.068	-0.42	0.675
Years of schooling	-0.047	0.068	-0.68	0.495
Age: 21 to 30	0.201	0.131	1.54	0.126
Age: 31 to 40	0.054	0.13	0.42	0.678
Age: 41 to 50	0.043	0.057	0.75	0.452
Frequency of extension contacts	-0.1	0.061	-1.64	0.103
Constant	-0.282	0.172	-1.64	0.103
Number of obs	180			
F stat (P-Value)	7.66			
Log likelihood	-65.145656			
Sigma	0.2757183***			

343 Source: Author's computation (2016)

344 Note: *, ** and *** represents statistical significance at 10%, 5% and 1%

345

346 4.3 Table egg producers' perceptions on the severity of challenges of business 347 environment in table egg production in the state.

348

349 From table 4, factors which were considered as having the most severe effects on the
350 firms were: non- availability of credit facilities with 95.5%, irregular Extension contacts
351 (88.3%), epileptic public power supply (87.9%) and high cost of feeds (86.0%) while high
352 cost of labour accounted for a share of 82.4%.

353

TABLE 4

354 Perceptions by respondents on severity of the challenges facing business environment of table
355 egg producers in Akwa Ibom State

Nos.	Factors affecting the business environment of table egg producers	VS (4) Freq	%	S (3) Freq	%	FS (2) freq	%	NS (1) freq	%	Total
1	Non availability of Credit facilities	168	95.5	8	4.5	-	-	3	1.7	176
2	Irregular extension contacts	151	88.3	10	5.8	6	3.5	4	2.3	171
3	Availability of modern equipment	90	78.3	15	13.0	5	4.3	5	4.3	115
4	Cost of modern equipment	140	82.4	15	8.8	10	5.8	5	2.9	170
5	Multiple taxation	10	5.7	34	19.5	20	11.5	110	63.2	174
6	Poor Water supply	97	58.4	34	20.5	25	15.1	10	6.0	166
7	High Cost of labour	153	86.0	15	8.4	5	2.8	5	2.8	178
8	Epileptic Public power supply	152	87.9	10	5.8	8	4.6	3	1.7	173
9	High Cost of feeds	109	77.3	25	17.7	12	8.5	5	3.5	141
10	Diseases and Pest	141	79.7	20	11.3	10	5.6	6	3.4	177
11	High cost of transportation	3	1.8	7	4.1	40	23.4	121	70.8	171
12	Poor returns on investment	1	0.6	2	1.1	2	1.1	169	97.1	174
13	Poor quality of feeds	157	94.0	5	3.0	3	1.8	2	1.2	167

356 **VS = Very Severe; (4) S = Severe; (3); FS = Fairly Severe (2); and NS = Not Severe. (1)**

357

358

359 **5.0 Policy implications**

360 Table egg producers in Akwa Ibom State were managerially inefficient. This is
 361 evident in the result of this study which shows that 89% of the table egg firms in the study
 362 area had managerial efficiency scores of less than 26% and the mean managerial efficiency
 363 score of 12.6% and standard deviation of 16.1. The coefficients of years of experience,
 364 marital status, sex, income were positive and significant determinants of managerial
 365 efficiency while years of education was negative although all respondents had formal
 366 education and the mean years of schooling was 10.7 with standard deviation of 4.87. This
 367 implies that the possession of formal education by table egg producer without adequate skill
 368 about the business does not guarantee that the producer will perform the managerial functions
 369 of the firm efficiently. Similarly, acquisition of more of years of experience in the business
 370 without any value addition on the capacity of the operators coupled with poor extension
 371 services cannot guarantee efficiency. In the same vein, being a member of a cooperative
 372 society which do not build the skills of members on best management practices in the
 373 business does not guarantee efficiency. Also, access to credit by table egg producers without
 374 utilizing the funds in the business will definitely have a negative effect on efficiency.
 375 Findings from this study emphasis the need for government to partner with other non-
 376 government stakeholders through Public Private Partnership (PPP) in order to address the
 377 challenges and create a conducive or enabling business environment that would raise the
 378 reported low managerial efficiency levels of table egg producers in the State.

379 There is need for government to collaborate with relevant stakeholders in the private
 380 sector to fund and organize capacity building programmes for table egg producers. Such
 381 programmes should also be extended to other players in the value chain in order to strengthen
 382 the marketing chains thereby facilitating inter and intra-industrial linkages. Also, Table egg
 383 producers in the State should be encouraged to collaborate with their counterparts to form
 384 partnerships. This would definitely improve their decision making process or managerial
 385 capacities and consequently their managerial efficiency levels.

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